# COMPUTING
# BROCKINGTON COLLEGE

## Computing Year 8 AP1

| Ability Band 3 | Ability Band 2 | Ability Band 1 |
|---|---|---|
| • Understand the hardware components that make up computer systems<br>• Understand how text can be represented digitally in the form of binary digits<br>• Understand how pictures can be represented digitally in the form of binary digit | • Use logical reasoning to detect and correct errors in programs<br>• Understand how computer networks can provide multiple services, such as the world wide web<br>• Appreciate how search results are selected | • Debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs |
| • Combine multiple applications to achieve challenging goals<br>• Analyse data<br>• Meet the needs of known users | • Combine a variety of software to accomplish given goals<br>• Select use and combine software on a range of digital devices<br>• Analyse data<br>• Evaluate data<br>• Design and create systems | • Use search technologies effectively<br>• Use a variety of software to accomplish given goals |
| • Revise digital artefacts for a given audience<br>• Attend to trustworthiness of digital artefacts<br>• Protect online identity<br>• Protect privacy | • Understand the opportunities computer networks offer for collaboration<br>• Be discerning in evaluating digital content | • Use technology responsibly<br>• Identify a range of ways to report concerns about contact |

# Computing Year 8 AP2

| Ability Band 3 | Ability Band 2 | Ability Band 1 |
|---|---|---|
| • Evaluate computational abstractions<br>• Model state of physical systems<br>• Model behaviour of real world problems<br>• Understand several key algorithms that reflect computational thinking<br>• Make use of appropriate data structures<br>• Design modular programs that use procedures or functions<br>• Understand uses of Boolean logic in programming<br>• Be able to carry out simple operations on binary numbers<br>• Understand the software components that make up computer systems<br>• Understand how instructions are stored by computer systems<br>• Understand how text can be manipulated digitally in the form of binary digits<br>• Understand how sounds can be represented digitally in the form of binary digits<br>• Understand how pictures can be manipulated digitally in the form of binary digits | • Solve problems by decomposing them into smaller parts<br>• Use selection in programs<br>• Work with variables<br>• Use logical reasoning to explain how some simple algorithms work<br>• Use logical reasoning to detect and correct errors in algorithms<br>• Understand computer networks including the internet<br>• Appreciate how search results are ranked | • Write programs that accomplish specific goals<br>• Use sequence in programs<br>• Work with various forms of input<br>• Work with various forms of output |
| • Create digital artefacts for a given audience<br>• Select multiple applications to achieve challenging goals | • Undertake creative projects with challenging goals<br>• Use multiple applications<br>• [Work with] applications across a range of devices<br>• Collect data | • Collect information<br>• Design and create content<br>• Present information |
| • Repurpose digital artefacts for a given audience<br>• Attend to design of digital artefacts<br>• Understand a range of ways to use technology securely<br>• Understand a range of ways to use technology responsibly | • Understand a range of ways to use technology respectfully<br>• Recognise inappropriate content<br>• Recognise inappropriate contact<br>• Recognise inappropriate conduct<br>• Know how to report concerns<br>• Reuse digital artefacts for a given audience<br>• Attend to usability of digital artefacts<br>• Understand a range of ways to use technology safely | • Understand the opportunities computer networks offer for communication<br>• Identify a range of ways to report concerns about content<br>• Recognise acceptable / unacceptable behaviour |